

REMARKS

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above each of pending independent claims 1 and 5 have been amended so as to emphasize that the polyamide layer "consists of" a branched polyamide. Support for such an amendment may be found throughout the originally filed specification, such as the Examples on pages 6-7 thereof.

Therefore, following entry of the present amendment, claims 1, 5 and 8-25 will remain pending herein, with independent claims 1 and 5 having been amended in the manner noted immediately above.

The prior claims attracted a number of rejections based on references of record. The inappropriateness of each such rejection vis-à-vis the presently pending claims will be discussed in greater detail below.

I. Response to 35 USC §102(b) Rejections

Claims 1, 5, 8-11, 16 and 18-21 attracted a rejection under 35 USC §102(b) based on Schmitz et al (US 2002/0082352). In response, applicants note that the present invention as defined by independent claims 1 and 5 is directed to a multilayer film containing at least a polyamide layer and a polyolefin layer directly connected to one another or connected via an intermediate adhesive layer. Significantly, the polyamide layer **consists of** a branched polyamide, and the polyolefin layer consists essentially of polypropylene or of polyethylene, which polyethylene layer, other than the adhesive layer, if present, contains only polyethylene which is at least 95% linear low-density polyethylene.

Schmitz et al describe a multilayer composite comprising the following layers bound directly to one another:

- (I) a layer of a polyamide molding composition,
- (II) a layer of a bonding agent comprising at least 50% by weight of a **mixture** of from **30 to 70 parts** by volume of a polymer selected from the group consisting of a polyamide, a **branched** polyamine-polyamide copolymer and a combination of a polyamide and a branched polyamide-polyamide copolymer ([0032-[0035]), and from **70 to 30 parts** by volume of a **polymer other than a branched polyamide**, and
- (III) a layer of a polyolefin molding composition, for example polyethylene (for example LLDPE) or polypropylene.

Therefore, Schmitz et al clearly contemplates layer II containing at most 70 parts by volume of a branched polyamine-polyamide in addition to 30 parts by volume of a polymer other than a branched polyamide. Thus, the layer II is most certainly **not** a "branched polyamide layer" as defined by the applicants' pending claims 1 and 5 since it includes unbranched polyamides which, as shown in the Examples and Comparative Experiments of the present application, are excluded from the claim scope (i.e., since the claimed polyamide layer "consists of" a branched polyamide.

Hence, withdrawal of Schmitz et al as an anticipatory reference against claims 1, 5, 8-11, 16 and 18-21 is in order.

II. Response to 35 USC §103(a) Rejections

Claims 12-15 and 22-25 attracted a rejection under 35 USC §103(a) as allegedly being "obvious" from Schmitz et al in view of Johnston (USP 4,654,240). Claim 17 was separately rejected under 35 USC §103(a) as allegedly being "obvious" from Schmitz et al alone, while claims 1 and 18-25 attracted a rejection under that same statutory provision based on Bayer in view of Johnston. As will become evident from the

discussion which follows, all claims now pending herein are patentably distinguishable over the applied references of record.

In this regard, applicants note that the present invention is concerned with the film blowing of multilayer films containing adjacent layers (and if necessary with an intermediate adhesive layer) of polyamide and specific polyolefin. The specific polyolefin is LLDPE or PP to give certain functionality to the film.

The problem however is that making blown film of such a combination of materials causes problems. The known solution to this problem is to add LDPE as an extra layer or mixed with the polyolefin so as to impart sufficient bubble strength. Such an extra layer makes the film blowing process more complex, while using a mixture influences the properties of the polyolefin in an unwanted manner. In this regard, the Examiner is invited to re-read the discussion appearing on page 1 of the present application.

With the multilayer film according to the presently pending claims – i.e., by employing branched polyamide instead of unbranched polyamide in the polyamide layer – surprisingly, in the case where LLDPE is the polyolefin, high tear strength and high bubble stability are achieved simultaneously, or in the case where PP is the polyolefin, high gloss and high bubble stability can be achieved simultaneously. Therefore, the present invention is patentably distinguishable over the art in that the present applicants have discovered that use of branched polyamide as the polyamide layer instead of unbranched polyamide, achieves these significant and surprising effects when employed to form blown multilayer film which also comprises PP or LLDPE.

Turning attention to the applied references, applicants note that Johnston does not add anything technically to Schmitz et al. Specifically, while Johnston uses PP or LLDPE, the technique for making the multilayer sterilizable container is by laminating the layers. Blow molding is not mentioned. Thus, Johnston deals with a quite different

type of multilayer film production. No teaching or guidance is provided by Johnston regarding how to blow films of the proposed combination of laminated layers. And, there is no teaching in Johnston regarding either the use of branched polyamide in blow-molded films or the technical significance of the same.

As noted previously, Schmitz et al do not disclose the use of a polyamide layer which consists essentially of a branched polyamide. Schmitz et al also do not teach that high bubble stability could be obtained by using such a branched polyamide layer, or that such bubble stability can be achieved *simultaneously* with high tear strength or high gloss when using branched polyamide in the polyamide layer in combination with LLDPE or PP in the polyolefin layer.

The Bayer reference teaches a novel type of polyamide – that is, a certain branched polyamide. It is noted in this regard that Bayer certainly is not the first to describe branched polyamides. However, the present applicants are not claiming to be the first inventors of branched polyamides per se.

With respect to processing properties of the branched polyamides disclosed in Bayer, it is stated at column 5, lines 64+ that:

“The polyamide produced according to the invention may be further processed by any known process known in the prior art for polyamides, for example...”

Nothing is therefore said in Bayer regarding any difference in processability as compared to prior art polyamides, let alone that a skilled person might find any incentive to apply this or any other branched polyamide in film blowing and at the same time omitting LDPE and expecting them to achieve sufficient bubble stability in a film blowing process. In other words, Bayer explicitly report to the art that the therein disclosed

branched polyamides are equivalent to other polyamides, including **un**branched polyamides.

Against this technical backdrop, therefore, it is indeed surprising that the present applicants have discovered that significant technical differences in fact exist in the context of blow-molding multilayer films as claimed.

Therefore the skilled person confronted with the problems in film blowing (bubble stability without using more than a minor amount of LDPE) finds no incentive or guidance in the applied references of record to arrive at the presently claimed invention.

The Examples and Comparative Experiments in the present application unequivocally demonstrate the essence of the presence of LDPE when conventional polyamides are used and the unexpected effect of the present invention – namely, the use of a branched polyamide layer which consists essentially of a branched polyamide. This evidence of **un**obviousness cannot be lightly overlooked when reviewing the patentability of the present invention vis-à-vis the applied references of record.

As such, the combinations of references relied upon by the Examiner to reject the prior pending claims under 35 USC §103(a) are inappropriate. Withdrawal of such rejections is therefore in order.

III. Conclusions

Every effort has been made to advance prosecution of this application to allowance. Therefore, in view of the amendments and remarks above, applicant suggests that all claims are in condition for allowance and Official Notice of the same is solicited.

DE KROON et al
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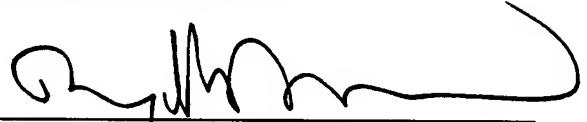
Should any small matters remain outstanding, the Examiner is encouraged to telephone the Applicants' undersigned attorney so that the same may be resolved without the need for an additional written action and reply.

An early and favorable reply on the merits is awaited.

Respectfully submitted,

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